## ABSTRACT OF THE DISCLOSURE

A method for CPU power management and bus optimization. First, the bus operates at an initial bus bandwidth and an initial bus frequency first. Next, power management settings
5   of the CPU, the Northbridge and the Southbridge are initialized, such that the CPU operates at a CPU operating frequency with a CPU operating voltage. Next, a CPU operating frequency and voltage adjustment is output to the Southbridge. Next, a bus disconnection signal is output by the Southbridge to disconnect
10  the CPU and the Northbridge, and a timer for calculating an elapsed time value is initialized. Next, the CPU operating frequency and the CPU operating voltage are adjusted according to the CPU operating frequency and voltage adjustment. Next, a bus connection signal is output by the Southbridge when the
15  elapsed time value reaches a predetermined value. Next, the CPU and the Northbridge are reconnected by the bus according to the bus connection signal. Finally, the bus operates at the bus operating bandwidth and the bus operating frequency, and the CPU operates at the adjusted CPU operating frequency with the
20  adjusted CPU operating voltage according to the CPU operating frequency and voltage adjustment.